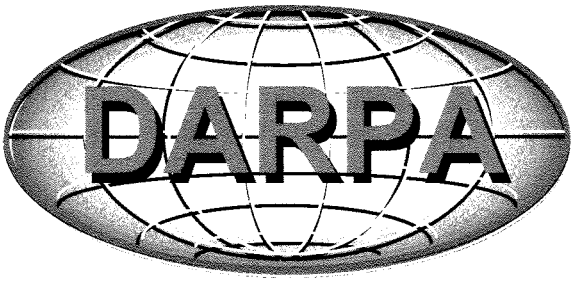


# Broad Agency Announcement

# Innovative Systems for Military Missions

# DARPA Tactical Technology Office (TTO)

# BAA 08-31

# 11 April 2008

Table of Contents:

## Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Tactical Technology Office
- **Funding Opportunity Title** – Innovative Systems for Military Missions
- **Announcement Type** –Initial announcement.
- **Funding Opportunity Number** – Broad Agency Announcement (BAA 08-31)
- **Catalog of Federal Domestic Assistance Numbers (CFDA) (only for grants and cooperative agreements, otherwise N/A)** – 12.910 Research and Technology Development
- **Dates**: Proposal Abstract (white paper) Due Date: 4 PM EDT on 13 February 2009
  Proposal Due Date: 4 PM EDT on 13 April 2009
- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement, or other transaction.
- **Agency contact** -- The BAA Coordinator for this effort can be reached at BAA08-31@darpa.mil

The Tactical Technology Office (TTO) of the Defense Advanced Research Projects Agency (DARPA) is soliciting abstracts (white papers) and proposals for advanced research and development of Innovative Systems for Military Missions. This solicitation seeks system and subsystem level technologies that enable revolutionary improvements to the efficiency and effectiveness of the military. Novel concepts are sought in five (5) general mission thrust areas: Space Operations; Land, Air, Sea and Space Platforms; Unmanned Systems; Directed Energy and Precision Strike. Responses for any Thrust Area may be submitted at any time while this solicitation is open. TTO may publish groups of Special Topics as modifications to this BAA throughout the year.

## Part Two: Full Text of Announcement

# I. FUNDING OPPORTUNITY DESCRIPTION

The Defense Advanced Research Projects Agency often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, http://www.fedbizopps.gov/, and Grants.gov website at http://www.grants.gov/. The following information is for those wishing to respond to the BAA.

## A. Program Overview

The Tactical Technology Office (TTO) of the Defense Advanced Research Projects Agency (DARPA) is soliciting abstracts (white papers) and proposals for advanced research and development of Innovative Systems for Military Missions. Innovative Systems are integrated systems or critical systems components, which often incorporate emerging advanced technologies, and which enable revolutionary improvements to the efficiency and effectiveness of the military.

TTO seeks responses relating to five (5) Mission Thrust Areas ("Mission Thrusts"):

- Space Operations
- Land, Air, Sea and Space Platforms
- Unmanned Systems
- Directed Energy
- Precision Strike

Responses to the thrust areas may be submitted at any time during the open period of this solicitation.

TTO's solicitation focuses on the high risk/high payoff development, integration, demonstration and evaluation of innovative systems or critical systems components enabled by, and incorporating, new or emerging technologies. Proposed efforts must also show significant promise to provide the U.S. military with revolutionary new mission capabilities, and/or enable significant increases in mission effectiveness.

Innovative system concepts of interest to TTO typically address emerging technical opportunities, advanced systems concepts, emergent threats, and/or new technology-enabled concepts of operation. TTO strongly encourages respondents to adopt a complete systems engineering approach to the problems.

This BAA solicits both abstracts (white papers) and proposals for proposed efforts. Offerors are strongly encouraged to initially submit a six page abstract (white paper) describing the offerors proposed concept. Submission of an abstract (white paper) is not required prior to submitting a full proposal.

In their submitted abstracts (white papers) or proposals, offerors should specifically and clearly address both the innovation of their proposed system or subsystem component development, and its impact on military mission efficiency and/or effectiveness.

Offerors are encouraged to review and monitor TTO's public web site at http://www.darpa.mil/TTO in order to better understand past and recent TTO mission systems development efforts.

TTO will respond to abstracts (white papers) with a recommendation encouraging or discouraging a full proposal. This recommendation will be based on the proposed effort's relevance to the TTO mission and a preliminary assessment of its technical approach and contribution to military mission effectiveness. Offerors will be notified by a formal letter of TTO's interest in their concept.

An offeror may submit a proposal and that proposal will be fully reviewed and evaluated. The submission of an abstract (white paper) or a favorable review of an abstract (white paper) is not required prior to submitting a proposal. Favorable response to an abstract (white paper) is not an assurance that a full proposal on the abstract's (white paper's) topic will ultimately be selected for contract award.

During the open period of this solicitation, TTO may publish amendments to this solicitation which seek abstracts (white papers) and proposals for other "Special Topics". Offerors are encouraged to monitor the DARPA TTO Solicitations Web Page (http://www.darpa.mil/tto/solicitations.htm) and FEDBIZOPPS (http://www.fedbizopps.gov) for such modifications to TTO BAA 08-31.

## B. Overview of TTO Mission Thrusts

TTO seeks innovative technological concepts related to the Mission Thrust Areas. TTO interests are not limited to the topics listed in the Mission Thrust Areas below, but these represent a spanning but incomplete set of the office's interests. TTO welcomes abstracts (white papers) and proposals in all areas relevant to the office mission, not only those listed in this document.

### *1. Mission Thrust: Space Operations*

TTO seeks innovative approaches across a wide range of space operations technologies and concepts. In recent years, TTO has integrated, demonstrated and evaluated systems that increase the level of autonomy and flexibility for our operations in space. For example: TTO has made significant advances in precision rendezvous and proximity operations, autonomous, on-orbit refueling operations, and spacecraft component replacement.

TTO continues to look for ways to improve the responsiveness and flexibility of space systems. TTO is interested in systems and/or technologies that enable:

- Frequent, low-latency access to earth orbit (for payloads from several kilograms to several hundred kilograms);

- Flexible space infrastructure concepts supporting spacecraft life extension and reconfiguration or redistribution of assets;
- 24/7 space situational awareness in all orbital regimes, using multiple phenomenologies;
- In-space assembly; rapid, highly efficient on-orbit maneuver, enabling vehicle access to a wide range of altitudes and inclinations;
- Reconfiguration of on-orbit assets to support evolving mission requirements and enhance survivability;
- Efficient space power collection and storage, especially supporting high power operations; space propulsion concepts and key technology enablers; and
- Innovative means for controlling space assets, emphasizing the use of autonomy to promote minimal manning, rapid set-up and teardown of operations, and maximal flexibility to control multiple mission types.

TTO is interested in novel on-orbit space platforms and launch vehicle concepts that:

- Ultimately reduce the overall cost of fielding new space capabilities;
- Enable space platform technologies that allow flexible space architectures;
- Enable comparable LEO space platform capabilities at GEO altitudes.

## *2. Mission Thrust: Land, Air, Sea and Space Platforms*

TTO has developed a wide range of Innovative Systems and technologies in the form of specific mission platforms, such as rapid-response space launch systems, novel aircraft, advanced navy surface combat systems, and advanced ground vehicle systems. TTO remains interested in platform concepts and subsystem technologies that demonstrate significant new capabilities, or which integrate and evaluate advanced prototypes which can inform decision making on future systems acquisition efforts.

TTO is interested in concepts for advanced platform systems that enable the U.S. military to dominate the close battle-space. Possible advanced systems efforts may include, but are not limited to: advanced air and ground systems which provide very significant increases in mobility, survivability, surveillance, situation awareness, sustainment, and fires for light ground forces; and sea-surface platform systems that give the littoral war fighter similar capabilities.

TTO is interested in concepts, systems, and supporting technologies that would enable an individual soldier or small squad to be semi-autonomously transported by air across a battlefield, land safely, take-off and return. A single individual should be able to manage all phases of the operation and should not require airfields for operation. Key issues include operation in complex urban terrain, survivability, ground mobility, payload, and simplicity of operation. Key performance parameters would be system weight, range, safety, and cost.

TTO is interested in innovative technologies and design approaches for vertical flight aircraft rotors and rotor systems. Technologies are sought that offer dramatic improvements for military rotorcraft in affordability, performance (esp. typical envelope limits), vibration and loads, susceptibility, operational availability and sustainability (durability, vulnerability, reliability, safety), and in other operational attributes. Specific technologies of interest include variable configuration (variable speed, variable geometry, switchable materials), unique devices or

systems in the rotating or non-rotating frame, unique or advanced actuation methods or mechanisms, unique or advanced structural approaches or materials, and advanced design approaches or methodologies.

TTO is interested in innovative propulsion approaches for high altitude, long endurance aircraft. Key issues include low oxygen operation, high specific energy storage, new engine cycles, efficient conversion to propulsive force and heat rejection. Key performance parameters include weight, volume, efficiency, and aircraft integration.

TTO is interested in innovative approaches to armored vehicle mobility, including those that fit within an armored vertical envelopment strategy. Key issues could include reducing the lift requirements for survivable ground vehicles and new ground vehicle concepts reducing or eliminating necessary personnel.

TTO is interested in concepts and technologies to support undersea weapons that do not provide target alertment, such as silent, wakeless high speed propulsion and non-acoustic sensing systems capable of spanning long range tracking through short range terminal homing.

TTO is interested in identifying and exploring radical maritime capabilities that can be packaged and operated from standard shipping containers, including traditional surface, anti-submarine, and mine countermeasure warfare. Capabilities of interest are those that enable utilization of distributed off-board systems independent of dedicated shipboard launch and recovery systems.

TTO is interested in systems and technologies that support the utilization of controlled undersea shock fronts for naval warfare, such as compact high power transducers, dispersed explosive reactants, and analytical and operational capabilities to synchronize multiple sources for fine control of resultant shock fronts.

TTO is interested in feasible approaches to disrupt an adversary's ability to classify and identify surface platforms in all signature regimes.

TTO is interested in the application of technology and autonomy across the full spectrum of system life-cycle activities. For example, research is sought that enables order-of-magnitude or greater increases in utility of aviation weapon platforms, in terms of on-station availability. Technologies that enable dramatic reduction of inspection, maintenance, repair and reset times/burdens are sought. Reductions or elimination of facilities and equipment, labor, scheduled maintenance cycles and float assets are invited.

### *3. Mission Thrust: Unmanned Systems*

TTO has pioneered unmanned systems technology, particularly for unmanned air vehicles, and more specifically for ISR missions. TTO continues to look to advance the capability, autonomy, and cost-effectiveness of these systems.

TTO is interested in the application of autonomy for delivery and retrieval of payloads. Approaches that enable dramatic improvements in the rate of tactical logistics support and resupply, in terms of throughput, equipment required, personnel required, and safety and

survivability are of interest. Autonomous, rapid and safe on-load and off-load of internal and external loads with a minimum number or even no personnel is desired.

TTO is interested in concepts and enabling technologies for an autonomous "man-rated" VTOL system capable of reliably air-transporting individual soldiers (possibly incapacitated) to or from a forward battle area with no control inputs from the passenger. Autonomous flight areas of interest include:

- Flight stability;
- Very high levels of reliability;
- Very high levels of survivability through sensing/autonomous systems for self-monitoring, threat detection and avoidance, and other techniques; and
- Robust on-board dynamic real-time planning, obstacle avoidance, and robust communications.

These concepts could support unmanned Combat Search and Rescue (CSAR), medical evacuation, counter sniper, counter IED, urban mapping, and situational awareness/electronic warfare missions.

TTO is interested in concepts, systems, and supporting technology that would enable the protection of high altitude unmanned aircraft from surface and air launched missiles. The objective capability provides protection against all threats by positively defeating the missile at a safe range.

TTO is interested in extreme endurance unmanned sea surface vehicles (USVs) and supporting technologies such as efficient sustained energy cycles, autonomous at-sea maintenance and repair, scalable deterrence of interference, and global command and control and autonomous operations.

TTO is interested in system concepts for large scale unmanned undersea vehicles (UUVs) capable of theater or global transit, including single use UUVs optimized to emplace sensor systems and arrays.

TTO is interested in advanced unmanned land platforms that operate seamlessly in multiple environments including urban as well as undeveloped areas. These platforms should work as a system requiring little or no supervision from the soldier such that they are considered an integral part of the platoon rather than a tool.

TTO is interested in advanced unmanned sea platforms that require little or no manning, can operate in multiple environments including high sea states and/or shallow water, have extended endurance, are low maintenance and can operate with a battlegroup or independently.

### *4. Mission Thrust: Directed Energy*

Directed energy continues to be an area of interest for TTO for a number of reasons, including the ability to provide speed of light and ultra-precise effects that enable rapid prosecution of time-sensitive-targets with minimal collateral damage. TTO is currently developing solid state laser weapon systems that are intended to be suitable for use on a wide variety of air and ground-based tactical platforms.

TTO continues to be interested in novel subsystems and technologies that can improve the performance, reliability, and utility of laser weapons in the battlespace; enhance system integration potential through decreased size, weight, and power consumption; and accelerate the deployment of laser weapons into the inventory. A representative, but not exhaustive, list of technology areas which support the advancement of laser directed energy weapon system capabilities includes: efficient and lightweight power and thermal management; advanced beam control to improve laser energy on target in challenging environments; lightweight and aerodynamically efficient beam directors; beam directors that are compatible with low observable aircraft; mitigation of aero-optic effects; optical stabilization in high vibration environments; system reliability enhancements; efficient and modular packaging schemes; and integration with advanced search and track and targeting sensors and algorithms.

TTO also remains interested in radio-frequency directed energy weapons. Achieving counter-electronics effects at long range from fighter-sized aircraft or cruise missiles is desired.

TTO is interested in non-lethal hardware disablement technologies applicable to maritime platforms. Within the area of high power microwaves, systems capable of real-time standoff interrogation and identification of specific pulse parameters to maximize target coupling and effect are desired.

TTO is interested in lightweight, high power generation systems for directed energy weapons.

### *5. Mission Thrust: Precision Strike*

Improvements in our ability to execute standoff strike at all scales will allow flexible and decisive response across the spectrum of armed conflict. TTO is interested in the ability to strike at fixed and mobile targets at long ranges, with the attendant systems that support battle damage assessment and re-strike. TTO is also interested in providing precision capabilities at shorter ranges.

TTO is interested in concepts for precision targeting of long range strike weapons. In particular, methods or techniques are sought for end-game precision targeting.

TTO is interested in material and conceptual developments that will provide a truly integrated fire support capability to light and dismounted forces, allowing the soldier to point to a target and have it destroyed quickly and reliably. Robust solutions will include technologies for target designation, tracking, weapons-target pairing, and coordination.

TTO is interested in weapons concepts that improve precision engagement technologies including target detection, location, tracking, assessment and attack. TTO is specifically interested in the development of substantially lighter weapons with advanced capabilities.

TTO is interested in innovative approaches to provide non-lethal anti-submarine warfare effectors to enable graduated capabilities for undersea battlespace control such as disrupting maneuvering or sensor capabilities of potential threat submarines.

TTO is interested in the rapid acceleration of maritime mine clearance capabilities, such as novel approaches to mine detection and concepts for standoff mine neutralization systems that do not rely on expendable neutralizers.

TTO is interested in technologies and systems that support sustained wide area maritime surveillance, including detection of challenging surface layer contacts such as drift mines.

# II. AWARD INFORMATION

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds. The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with offerors. The Government also reserves the right to conduct discussions if the Source Selection Authority later determines them to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of a proposal, negotiations may be opened with that offeror. If the proposed effort is inherently divisible and nothing is gained from the aggregation, offerors should consider submitting it as multiple independent efforts. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases.

Awards under this BAA will be made to offerors on the basis of the evaluation criteria listed below (see section labeled "Application Review Information", Sec. V.), and program balance to provide overall value to the Government. Proposals identified for negotiation may result in a procurement contract, grant, cooperative agreement, or other transaction depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors.

# III. ELIGIBILITY INFORMATION

## A. Eligible Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Independent proposals from Government/National laboratories may be subject to applicable direct competition limitations, though certain Federally Funded Research and Development Centers are excepted per P.L. 103-337§ 217 and P.L 105-261 § 3136. Proposers from Government/ National Laboratories must provide documentation to DARPA to establish that they are eligible to propose and have unique capabilities not otherwise available in private industry.

Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 USC 203, 205, and 208.) Prior to the start of proposal evaluations, the Government will assess whether any potential conflict of interest exists in regards to the DARPA Program Manager, as well as those individuals chosen to evaluate proposals received under this BAA. The Program Manager is required to review and evaluate all proposals received under this BAA and to manage all selected efforts.

All Proposers and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the Proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and Performer. Proposals that fail to fully disclose potential conflicts of interests and/or do not have plans to mitigate this conflict will be returned without technical evaluation and withdrawn from further consideration for award.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Proposer should promptly raise the issue with DARPA by sending Proposer's contact information and a summary of the potential conflict by email to the mailbox address for this BAA at **BAA08-31@darpa.mil**, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be returned without technical evaluation and withdrawn from further consideration for award under this BAA.

## B. Cost Sharing/Matching

Not Applicable.

## C. Other Eligibility Criteria

Not Applicable.

# IV. APPLICATION AND SUBMISSION INFORMATION

## A. Address to Request Application Package

This solicitation contains all information required to submit a proposal abstract (white paper) or proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

## B. Content and Form of Application Submission

### *1. Abstract and Proposal Information*

Proposers who choose to use abstracts (white papers) are strongly encouraged to submit a proposal abstract (white paper) in advance of a full proposal. This procedure is intended to minimize unnecessary effort in proposal preparation and review. The time and date for submission of abstracts (white papers) is specified in Section IV.C. below. DARPA will acknowledge receipt of the submission and assign a control number that should be used in all further correspondence regarding the abstract (white paper).

DARPA will respond to abstracts (white paper) with a recommendation to propose or not propose and the time and date for submission of a full proposal. DARPA will attempt to review abstracts (white papers) within sixty (60) calendar days after receipt. Abstracts (white papers) will be reviewed as they are received. Early submissions of abstracts (white papers) and full proposals are strongly encouraged because selections may be made at any time during the evaluation process. Regardless of the recommendation, the decision to propose is the responsibility of the proposer. All submitted proposals will be fully reviewed regardless of the disposition of the abstract (white paper).

The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be included into a single proposal.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA technical research and is bound by appropriate nondisclosure requirements. Proposals and abstracts (white papers) may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposals not meeting the format described in the BAA may not be reviewed.

Offerors may elect to use the Grants.gov APPLY function if the applicant is seeking a grant or cooperative agreement. The APPLY function replaces the proposal submission process that other offerors follow. The APPLY function does not affect the proposal content or format. The

APPLY function is electronic; offerors do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.

DARPA intends to use electronic mail and fax for correspondence regarding BAA 08-31. Proposals and abstracts (white papers) may not be submitted by fax or e-mail; any so sent will be disregarded. DARPA encourages use of the Internet for retrieving the BAA and any other related information that may subsequently be provided.

Proposals sent in response to BAA 08-31 must be submitted through T-FIMS (except Grants.gov proposals). Because proposers using T-FIMS may encounter heavy traffic on the web server, and T-FIMS requires a registration and certificate installation for all proposers, proposers should not wait until the day the proposal is due to create an account in T-FIMS and submit the proposal. All proposers using T-FIMS must also encrypt the proposal, as per the instructions below.

All administrative correspondence and questions on this solicitation, including requests for information on how to submit an abstract (white paper) or full proposal to this BAA, should be directed to the following administrative address:

BAA Coordinator email: BAA08-31@darpa.mil
Additional information is available at http://www.darpa.mil/tto
BAA TFIMS submission guidance is found at
https://www.tfims.darpa.mil/baa/proposer_instructions.pdf

All proposals submitted to TFIMS (not including Grants.gov) must be encrypted using WinZip or PKZip with 256-bit AES encryption. Only one zipped/encrypted file will be accepted per proposal and proposals not zipped/encrypted will be rejected by DARPA. An encryption password form must be completed and emailed to BAA08-31@darpa.mil at the time of proposal submission. See https://www.tfims.darpa.mil/baa/ for the encryption password form.

Note the word "PASSWORD" must appear in the subject line of the above email and there are minimum security requirements for establishing the encryption password. Failure to provide the encryption password may result in the proposal not being evaluated. For further information and instructions on how to zip and encrypt proposal files, see https://www.tfims.darpa.mil/baa/.

## *2. Proposal Abstract Format*

Proposal abstracts (white papers) are encouraged in advance of full proposals in order to provide potential offerors with a rapid response to minimize unnecessary effort. Proposal abstracts should follow the same general format as described for Volume I under PROPOSAL FORMAT (see below), but include ONLY Sections I and II. The cover sheet should be clearly marked "PROPOSAL ABSTRACT" and the total length should not exceed 6 pages, excluding cover page and official transmittal letter. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for proposal abstracts (white papers) includes all figures, tables, and charts. No formal transmittal letter is required. All proposal abstracts (white papers) must be written in English.

### *3. Full Proposal Format*

All full proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. The page limitation for full proposals includes all figures, tables, and charts. Volume I, Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers can be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. Except for the attached bibliography and Section I, Volume I shall not exceed 60 pages. Maximum page lengths for each section are shown in braces { } below. All full proposals must be written in English.

### *4. Volume I, Technical and Management Proposal*

Section I. Administrative

A. Cover sheet {1} to include:

- **a.** BAA number (BAA 08-31)
- **b.** Technical area
- **c.** Lead organization submitting proposal
- **d.** Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT"
- **e.** Contractor's reference number (if any)
- **f.** Other team members (if applicable) and type of business for each
- **g.** Proposal title
- **h.** Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
- **i.** Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available), total funds requested from DARPA, and the amount of cost share (if any) and
- **j.** Date proposal was submitted.

B. Official transmittal letter {1}.

Section II. Summary of Proposal {6}

Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches. In addition, include the following paragraphs:

A. Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are not proprietary claims, this should be stated.
B. Cost, schedule and milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the prime and major subcontractors, total cost and company cost share, if applicable. **Note: Measurable critical milestones should occur every three to six months after start of effort.** These milestones should enable and support a go/no-go decision for the next part of the effort. Do not include proprietary information with the milestones. Additional interim non-critical management milestones are also highly encouraged at a regular interval.
C. Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production. (In the full proposal, this section should be supplemented by a more detailed plan in Section III.)
D. General discussion of other research in this area.
E. A clearly defined organization chart for the program team which includes, as applicable: (1) the programmatic relationship of team member; (2) the unique capabilities of team members; (3) the task of responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel along with the amount of effort to be expended by each person during each year.

Section III. Detailed Proposal Information {54}

A. Statement of Work (SOW) - In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependant on the amount of the effort. For each task/subtask, provide:
   - A general description of the objective (for each defined task/activity);
   - A detailed description of the approach to be taken to accomplish each defined task/activity);
   - Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
   - The exit criteria for each task/activity - a product, event or milestone that defines its completion.
   - Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

   *Note: It is recommended that the SOW should be developed so that each Phase of the program is separately defined. Do not include any proprietary information in the SOW.*
B. Description of the results, products, transferable technology, and expected technology transfer path enhancing that of Section II. B. See also VI (B) (2) "Intellectual Property."
C. Detailed technical rationale enhancing that of Section II.
D. Detailed technical approach enhancing and completing that of Section II.
E. Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
F. Discussion of proposer's previous accomplishments and work in closely related research areas.

G. Description of the facilities that would be used for the proposed effort.
H. Detail support enhancing that of Section II, including formal teaming agreements which are required to execute this program.
I. Cost schedules and milestones for the proposed research, including estimates of cost for each task in each year of the effort delineated by the primes and major subcontractors, total cost, and any company cost share. **Note: Measurable critical milestones should occur every three to six months after start of effort.** These milestones should enable and support a go/no-go decision for the next part of the effort. Additional interim non-critical management milestones are also highly encouraged at regular intervals. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.
J. Identification of potential Organizational Conflicts of Interest of all offerors including any proposed subcontractors to affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract, including contracts or subcontracts awarded by DARPA Agents. All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include the offeror's mitigation plan, a description of the action the offeror has taken, or proposes to take, to avoid, neutralize, or mitigate such conflict. Proposals that fail to fully disclose potential conflicts of interests and/or do not have plans to mitigate this conflict will be withdrawn from further consideration for award.

Section IV. Additional Information

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission.

### *5. Volume II, Cost Proposal – {No Page Limit}*

Cover sheet to include:
(1) BAA number; (BAA 08-31)
(2) Technical area;
(3) Lead Organization submitting proposal;
(4) Type of business, selected among the following categories: "LARGE BUSINESS", "SMALL DISADVANTAGED BUSINESS", "OTHER SMALL BUSINESS", "HBCU", "MI", "OTHER EDUCATIONAL", OR "OTHER NONPROFIT";
(5) Contractor's reference number (if any);
(6) Other team members (if applicable) and type of business for each;
(7) Proposal title;
(8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);

(9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
(10) Award instrument requested: cost-plus-fixed-free (CPFF), cost-contract—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), grant, cooperative agreement, or other transaction;
(11) Place(s) and period(s) of performance;
(12) Total proposed cost separated by basic award and option(s) (if any);
(13) Name, address, and telephone number of the offeror's cognizant Defense Contract Management Agency (DCMA) administration office (*if known)*;
(14) Name, address, and telephone number of the offeror's cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
(15) Date proposal was prepared;
(16) DUNS number;
(17) TIN number; and
(18) Cage Code;
(19) Subcontractor Information; and
(20) Proposal validity period.

Detailed cost breakdown to include:

(1) Total program cost broken down by major cost items (direct labor, including labor categories; subcontracts; materials; other direct costs, overhead charges, etc.) and further broken down task and phase;
(2) Major program tasks by fiscal year;
(3) Itemization of major subcontracts and equipment purchases;
(4) Itemization of any information technology (IT) purchase[1];
(5) Summary of projected funding requirements by month; and
(6) Source, nature, and amount of any industry cost-sharing; and
(7) Identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished Property/Facilities/Information, access to Government Subject Matter Expert/s, etc.).

[1] IT is defined as "any equipment, or interconnected system(s) or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency. (a) For purposes of this definition, equipment is used by an agency if the equipment is used by the agency directly or is used by a contractor under a contract with the agency which – (1) Requires the use of such equipment; or (2) Requires the use, to a significant extent, or such equipment in the performance of a service or the furnishing of a product. (b) The term "information technology" includes computers, ancillary, software, firmware and similar procedures, services (including support services), and related resources. (c) The term "information technology" does not include – (1) Any equipment that is acquired by a contractor incidental to a contract; or (2) Any equipment that contains imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, are not information technology."

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. NOTE: for IT and equipment purchases, include a letter stating why the offeror cannot provide the requested resources from its own funding.

The FY2008 Defense Appropriations Act caps indirect cost rates for any procurement contract, grant or agreement using 6.1 Basic Research FY08 Funding at 35% of the total cost of the award. Total costs include all bottom line costs. Indirect costs are all costs of a prime award that are Facilities and Administration costs (for awardees subject to the cost principles in 2 CFR part 220) or indirect costs (for awardees subject to the cost principles in 2 CFR part 225 or 230 or 48 CFR part 32). Where appropriate, if DARPA anticipates using 6.1 funding for this effort, the Contractor must be made aware that total negotiated indirect cost rates may not exceed 35% of the total cost of the award. The cost limitations do not flow down to subcontractors. The original text of the Act can be found at Department of Defense Appropriations Act of 2008, Pub. L. No. 110-116, §8115, http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ116.110.

Supporting cost and pricing information in sufficient detail to substantiate the summary cost estimates in B. above. Include a description of the method used to estimate costs and supporting documentation. Note: "cost or pricing data" as defined in FAR Subpart 15.4 shall be required if the offeror is seeking a procurement contract award of $650,000 or greater unless the offeror requests an exception from the requirement to submit cost of pricing data. "Cost or pricing data" are not required if the offeror proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, of which cannot be uploaded to TFIMS shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic/email, etc.), either by the Proposer or by the subcontractor organization.

## C. Submission Dates and Times

### *1. Proposal Abstract Date*

Proposal abstracts (white papers) must be submitted on or before 4:00 p.m., EDT, 13 February 2009. Proposal abstracts received after this time and date may not be evaluated.

### *2. Full Proposal Date*

The full proposal must be submitted on or before 4:00 p.m., EDT, 13 April 2009. Full proposals submitted after 13 April 2009 will not be evaluated.

DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

Failure to comply with the submission procedures may result in the submission not being evaluated.

### D. Intergovernmental Review

Not Applicable

### E. Funding Restrictions

Not Applicable.

## V. APPLICATION REVIEW INFORMATION

### A. Evaluation Criteria

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria, in order of descending importance: (a) Ability to Meet Program Go/No-Go Metrics; (b) Overall Scientific and Technical Merit; (c) Potential Contribution and Relevance to the DARPA/TTO Mission; (d) Plans and Capability to Accomplish Technology Transition; (e) Proposer's Capabilities and/or Related Experience; (f) Realism of Proposed Schedule ; and (g) Cost Realism. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. The following are descriptions of the above listed criteria:

#### *1. Ability to Meet Program Go/No-Go Metrics*

The offeror's proposal establishes clear and well defined research go/no-go metrics to be used as exit and entry criteria for Government approval to progress through phases of the proposed effort. The feasibility and likelihood of the proposed approach for satisfying the program go/no-go metrics are explicitly described and clearly substantiated. The proposal reflects a mature and quantitative understanding of the proposed go/no-go metrics, the statistical confidence with which they may be measured, and their relationship to the concept of operations that will result from successful performance.

NOTE: This criteria will not be used to evaluate single phase/short duration (12 months or less) efforts, unless the Government, after receipt of initial proposals, requests that go/no-go metrics be provided as part of a revised proposal. Only then will this criteria be used to evaluate proposals associated with single phase/short duration efforts.

#### *2. Overall Scientific and Technical Merit*

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal identifies major technical risks and planned mitigation efforts are clearly defined and feasible. The proposal clearly explains the technical approach(es) that will be employed to meet or exceed each program metric and provides ample justification as to why the approach(es) is/are feasible.

### *3. Potential Contribution and Relevance to the DARPA/TTO Mission*

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA/TTO's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.

### *4. Plans and Capability to Accomplish Technology Transition*

The capability to transition the technology to the research, industrial, and operational military communities in such a way as to enhance U.S. defense, and the extent to which any intellectual property rights limitations create a barrier to technology transition.

### *5. Proposer's Capabilities and/or Related Experience*

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

### *6. Realism of Proposed Schedule*

The proposer's abilities to aggressively pursue performance metrics in the shortest timeframe and to accurately account for that timeframe will be evaluated, as well as proposer's ability to understand, identify, and mitigate any potential risk in schedule.

### *7. Cost Realism*

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer's practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. The evaluation criterion recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative

management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award the contracting officer will negotiate cost/price reasonableness.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort. Award(s) may be made to any proposer(s) whose proposal(s) is determined selectable regardless of its overall rating.

NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.

## B. Review and Selection Process

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. All proposals must first be deemed acceptable under criteria (3) above to receive a full technical review. For the purposes of this BAA, relevance to TTO and/or likely contribution to its mission is defined as follows:

> The proposed effort falls within TTO's area of responsibility, the proposal is suitably structured to produce a TTO program or product, TTO has the appropriate personnel to manage the effort, and the proposed effort would lead to a useful addition to the TTO program portfolio.

For evaluation purposes, a proposal is the document described in "Proposal Information", Section IV.B. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants /experts who are strictly bound by the appropriate non-disclosure requirements.

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. Upon completion of the source selection process, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

# VI. AWARD ADMINISTRATION INFORMATION

## A. Award Notices

As soon as the evaluation of a proposal is complete, the offeror will be notified that 1) the proposal has been selected for funding pending contract negotiations, or 2) the proposal has not been selected. These official notifications will be sent via U.S. Mail to the Technical POC identified on the proposal coversheet.

## B. Administrative and National Policy Requirements

### *1. Security*

The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable. If the proposal exploits U.S. vulnerabilities, promises asymmetric advantage, or the idea would generate adversary countermeasures, the proposer should submit their research proposals with adequate corporate proprietary or security protection to mitigate potential compromise and ensure the maximization of any DoD investment.

Security classification guidance on a DD Form 254 will not be provided at this time since DARPA is soliciting ideas only. After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information, a DD Form 254 will be issued and attached as part of the award. Proposers choosing to submit a classified proposal must first receive permission from the Original Classification Authority to use their information in replying to this BAA. Applicable classification guide(s) should be submitted to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

**Collateral Classified Information:** Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service Express Mail.

All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be address to:

Defense Advanced Research Projects Agency
ATTN: Tactical Technology Office
Reference: (BAA 08-31)
3701 North Fairfax Drive
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency
Security & Intelligence Directorate, Attn: CDR
3701 North Fairfax Drive
Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA CDR.

**Special Access Program (SAP) Information**: Contact the DARPA Special Access Program Central Office (SAPCO) 703-526-4052 for further guidance and instructions prior to transmitting SAP information to DARPA. Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. *Prior to transmitting SAP material*, it is strongly recommended that you coordinate your submission with the DARPA SAPCO.

**Sensitive Compartmented Information (SCI) Data**: Contact the DARPA Special Security Office (SSO) at 703-812-1994/1984 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO). SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

**Proprietary Data**: All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Offeror's responsibility to clearly define to the Government what is considered proprietary data.

Offerors must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided that the formal request is received at this office within 5 days after unsuccessful notification.

## *2. Intellectual Property*

### a. Procurement Contract Proposers

#### i. Noncommercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all noncommercial technical data and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has "unlimited rights" to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated in the development of noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire "unlimited rights" unless the parties agree otherwise. Proposers are admonished that the Government will use the list during the source selection evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no restrictions are intended, then the proposer should state "NONE."

A sample list for complying with this request is as follows:

| NONCOMMERCIAL | | | |
|---|---|---|---|
| Technical Data Computer Software To be Furnished With Restrictions | Basis for Assertion | Asserted Rights Category | Name of Person Asserting Restrictions |
| (LIST) | (LIST) | (LIST) | (LIST) |

#### ii. Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all commercial technical data and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government's use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit

the list, the Government will assume that there are no restrictions on the Government's use of such commercial items. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no restrictions are intended, then the proposer should state "NONE."

A sample list for complying with this request is as follows:

| COMMERCIAL | | | |
|---|---|---|---|
| Technical Data Computer Software To be Furnished With Restrictions | Basis for Assertion | Asserted Rights Category | Name of Person Asserting Restrictions |
| (LIST) | (LIST) | (LIST) | (LIST) |

**a. Non-Procurement Contract Proposers – Noncommercial and Commercial Items (Technical Data and Computer Software**

Proposers responding to this BAA requesting a Grant, Cooperative Agreement, Technology Investment Agreement, or Other Transaction for Prototype shall follow the applicable rules and regulations governing these various award instruments, but in all cases should appropriately identify any potential restrictions on the Government's use of any Intellectual Property contemplated under those award instruments in question. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no restrictions are intended, then the proposer should state "NONE."

**b. All Proposers – Patents**

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that you own the invention, or 2) proof of possession of appropriate licensing rights in the invention.

**c. All Proposers – Intellectual Property Representations**

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, offerors shall provide a short summary for each item asserted with less than

unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

### *3. Meeting and Travel Requirements*

There will be a program kickoff meeting and all key participants are required to attend. Performers should also anticipate periodic site visits at the Program Manager's discretion.

### *4. Human Use*

All research involving human subjects, to include use of human biological specimens and human data, selected for funding must comply with the federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, *Protection of Human Subjects* (http://www.dtic.mil/biosys/downloads/32cfr219.pdf), and DoD Directive 3216.02, *Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research* (http://www.dtic.mil/whs/directives/corres/html2/d32162x.htm).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (http://www.hhs.gov/ohrp). All institutions engaged in human subject research, to include subcontractors, must also have a valid Assurance. In addition, personnel involved in human subjects research must provide documentation of completing appropriate training for the protection of human subjects.

For all proposed research that will involve human subjects in the first year or phase of the project, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) upon final proposal submission to DARPA. The IRB conducting the review must be the IRB identified on the institution's Assurance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. Consult the designated IRB for guidance on writing the protocol. The informed consent document must comply with federal regulations (32 CFR 219.116). A valid Assurance along with evidence of appropriate training all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects regulatory review and approval is required for all research conducted or supported by the DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component's headquarters-level review process. Note that confirmation of a current Assurance and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between

one to three months, followed by a DoD review that could last between three to six months. No DoD/DARPA funding can be used towards human subjects research until ALL approvals are granted.

### *5. Animal Use*

Any Recipient performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); (ii) the guidelines described in National Institutes of Health Publication No. 86-23, "Guide for the Care and Use of Laboratory Animals"; (iii) DoD Directive 3216.01, "Use of Laboratory Animals in DoD Program."

For submissions containing animal use, proposals should briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. Animal studies in the program will be expected to comply with the PHS Policy on Humane Care and Use of Laboratory Animals, available at http://grants.nih.gov/grants/olaw/olaw.htm.

All Recipients must receive approval by a DoD certified veterinarian, in addition to an IACUC approval. No animal studies may be conducted using DoD/DARPA funding until the USAMRMC Animal Care and Use Review Office (ACURO) or other appropriate DoD veterinary office(s) grant approval. As a part of this secondary review process, the Recipient will be required to complete and submit an ACURO Animal Use Appendix, which may be found at https://mrmc.amedd.army.mil/AnimalAppendix.asp

### *6. Publication Approval*

Offerors are advised if they propose grants or cooperative agreements, DARPA may elect to award other award instruments. DARPA will make this election if it determines that the research resulting from the proposed program will present a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense. Any award resulting from such a determination will include a requirement for DARPA permission before publishing any information or results on the program.

The following provision will be incorporated into any resultant procurement contract or other transaction:

> When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor/Awardee must submit a request for public release to the DARPA TIO and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx. 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor/Awardee's Information: POC name, e-mail and phone.

Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to tio@darpa.mil or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to www.darpa.mil/tio for information about DARPA's public release process.

### *7. Export Control*

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

(1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

### *8. Subcontracting*

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

## C. Reporting

The number and types of reports will be specified in the award document, but will include as a minimum monthly technical and financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award, notwithstanding the fact that the research may be continued under a follow-on vehicle.

### *1. Central Contractor Registration (CCR)*

Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at http://www.ccr.gov.

### *2. Representations and Certifications*

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at http://orca.bpn.gov.

### *3. Wide Area Work Flow (WAWF)*

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at http://wawf.eb.mil. Registration to WAWF will be required prior to any award under this BAA.

## VII. AGENCY CONTACTS

Administrative, technical or contractual questions should be sent via e-mail to BAA08-31@darpa.mil@darpa.mil. If e-mail is not available, fax questions to (703) 807-4971, Attention: BAA 08-31. All requests must include the name, email address, and phone number of a point of contact.

The technical POC for this effort is
Dr. Steven Walker, Deputy Director, Tactical Technology Office
Email: BAA08-31@darpa.mil
DARPA Tactical Technology Office
ATTN: BAA 08-31
3701 North Fairfax Drive
Arlington, VA 22203-1714